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IV. *A short Dissertation concerning the Child's Crying in the Womb.* By the Reverend Mr. W. Derham, F. R. S.

I Have already given the Society a Relation of the most material Circumstances of the *Vagitus Uterinus* that happened lately near me. That Account was somewhat hastily written, without considering the manner of the Foetus's Life, and the Disputes about it among some of the most Learned Anatomists. And having since more maturely considered the Matter, and made some farther Enquiries into the Case, I hope a short, and farther Dissertation upon that Subject will not be unacceptable; especially because I find the Case near me to be more considerable, or at least that a better Account may be given of it, than I find of any in the Authors I have consulted about it; and it may perhaps conduce in some measure to the ascertaining the Fact, which some of the most considerable Members of our Society (as some of the most Learned Authors) called in Question.

Among the Authors that question the Fact, two of the most considerable are *Etmüller* and *Diemerbroeck*. The Learned *Etmüller* declares *Diemerbroeck's* Opinion, as well as his own, in his *Dissertation de abstruso Respirationis Humanae negotio*, Ch. 9. Where he treats of our famous Dr. Harvey's Probleme, *Why the Fetus after Delivery, and before it hath Breathed, can live for some Hours in its After-burden, &c;*; but having breathed but once, cannot live scarce a moment in that manner? *Etmüller's* Words to our pur-  
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pose are, *Vagitus Uterinum invincibile nonnulli existimant argumentum pro Respiratione Fœtus in Utero demonstranda. Sed cum muliercularum, quæ plerumque in hisce casibus invocantur testes, sublesta admodum fides, nec satis circumspecta sit observatio, ut pro basi Problematis hujus resolvendi intervenire queat; merito suspicamur cum Clariss. Diemerbroecio, Vagitus, si quis certo observatus fuerit, e sibilo intestinorum flatulentorum a fœtu compressorum ortum duxisse, qui sæpe mirus auditur, suspiria gemitusque in quibusdam mentiens. Similia quoque ad pipientium Pullorum, intra ovi testam adhuc existentium, sonum, quem editum ferunt aliquando, reponimus: Præprimis cum extenuatus aquæ vapor ad corpora tenuiora allisus non minus sibilum excitare observetur: uti id. experimento probat Illustr. Boyleus.*

The Matter of Fact being thus called in Question, may in my Opinion receive an Answer, in some measure, from the Case I have spoken of, and into which I have made some farther Enquiries. Concerning which I must needs say, that notwithstanding I should be as much enclined as any Man to doubt of the Fact, being clearly of Opinion that the Fœtus doth not live in the Womb by Breathing, yet the Evidence is so clear to me in the present Case, that I am fully satisfy'd it was really *Crying of the Fœtus*, and not Groaking of the Guts, or Womb, or the Effect of any Feminine Imagination.

For here we have a thing happening not once, or twice only, but a great many times; almost every Day, and divers times in the Day; and that for near five Weeks together. Enough to have discovered any Mistake, or to have undeceived even a fanciful Person.

In the next Place, we have the Child heard to Cry aloud, so as to be distinctly heard by Persons in another Room. Consequently the Hearers could more easily, and certainly distinguish whether the Noise was *Crying* or *Groaking*.

*Croaking.* The Description the Mother and others gave me thereof was, " That the Noise the Child made, was " as if a Born-Infant had Cry'd eagerly, shut up close in " a Tub.

In the third Place, The Crying seemed to be so eager and hearty, as to end in Sobbing, like what is observable oftentimes in Born Infants.

In the fourth Place, It was heard not alone by the Father and Mother, or one or two besides, but by many, or most of the Neighbourhood, both near and farther off, and many of them Persons long used to Children ; who do all with the greatest Assurance affirm it to have been as manifest Crying, as ever they heard from a Born-Infant, and nothing like any Noise of Wind, or the Guts : As on Enquiry they all particularly told me.

And in the last Place, The Midwife told me, that laying her Hand on the left side the Woman's Belly, where the Child lay when it Cryed, she could plainly feel a Motion under her Hand, like that of Respiration, every Blast of the Child's Crying sensibly touching upon her Hand.

These Particulars being considered, do not only prove the reality of the Thing, but shew the Case to be very considerable. I have met with many Instances of this Nature in divers Authors, but not one that was of so long Continuance, and in which there were such frequent Reiterations of the Crying. Some of the best attested Cases I have met with, may deserve to be recounted here. And the Learned *Verzascha* of *Basil* hath given us so good a Catalogue of them in the third Observation of his *Observ. Medic.* that I shall go no farther for more. And passing by the Cases he mentions, attested only by vulgar illiterate Persons, I shall name only a few that seem to have more sensible Persons for their Evi-

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dence. *Ant. Deusingius* in his *Dissert. de Generat. Fœtus* tell us (he saith) “ how that he had it from “ his Colleague *Moneus*, that the Child cry’d in his “ Wife’s Womb, and the same befel the Wives of “ Mr. *Salmuth*, and Mr. *Grænwoit*. His next Relation is that of our Dr. *Needham*, of the Fœtus crying in the Womb of an *English* Woman of Quality, as she, her Husband, and Chaplain were together at Supper. Which being a Story that every one is acquainted with, that hath seen the Doctor’s excellent Book *De formato Fœtu*, I shall not mention the Particulars of it. The last Instance is of *Christian II.* King of *Denmark*, who was heard to Cry before he was Born. Now these being Cases attested by Persons that may be supposed of better Understanding than the fanciful Vulgar, seem to claim somewhat more of Credit: The latter being the Case of a King, and in all probability heard by some of the best Quality about the Court; the next heard by the Chaplain as well as Persons of Quality themselves, and that three times one after another; and the former coming within the Cognisance of Gentlemen, and they probably Men of Learning too.

Upon this whole Evidence (and more I could have added, even from the time of *Hippocrates*, I say from hence) I conclude, That the Fœtus doth really Cry sometimes in the Womb; although how this is performed is hard to account for: Surely not without Respiration. And therefore I am apt to think, that although the Fœtus doth not ordinarily breathe in the Womb, yet it is possible for it to have an occasional, temporary Respiration there. But whether in such Respiration, any of the Blood passeth into the Lungs, or whether it doth not continue its Circulation through the *Foramen Ovale* only: Or if any more than ordinary Blood should by such Respiration get  
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into the Lungs, whether it may not easily, and without Inconvenience be discharged thence, during that State of Life the Foetus leads in the Womb: All these Doubts I must confess my self unable to determine. But however thus much favouring my Opinion, may be observed in the *Sea-Calf*, and such other Animals as have the *Foramen Ovale*, That the Circulation of their Blood is continued, notwithstanding the discontinuance of their Respiration for a long time.

As to the *Peeping of Chickens in the Egg*, about which *Etmuller* hath the same doubt, as of the *Vagitus Uterinus*, I have my self divers times heard that, both from Chickens and Ducks. And a Person more Conversant in such Matters than my self assures me, That a little before the Hatching, she hath often, and can at any time cause some Chickens, and Ducklings to peep in the Egg. She saith, that sometimes whole Nests of Eggs will yield a Cry, sometimes only some particular Eggs: But that such Eggs as have once afforded a Peeping, may be made to Peep and Cry at any time, by shaking the Egg, and putting the Youngling into a disorder. And sometimes where there hath not been any Noise before heard, the Bird hath been made to Cry, by shaking the Egg in which it was enclosed.

The Cause of this Peeping in the Shell, I take to be from some Uneasiness the young Bird may find there. It being arrived to its perfect State in the Egg, is either weary of its Confinement therein, and desireth more liberty; or else it lies uneasily, or is offended with shaking, and therefore Peepeth and Cryeth, as when uneasy out of the Shell.

And after some such manner I take it to be with an Humane Foetus; that it is in some Disorder, and uneasy in the Womb, and therefore Cryeth as well

in, as out of it. Thus I am apt to think it beset the Foetus I have so often spoken of, *viz.* That it lay very uneasily in the Womb all the while it Cry'd there, the Mother being in great Pain before, and during the time of the Child's Crying, and the Child it self being closely confined, and pent up on the Left-side the Mother's Belly, *all the time of the Crying only, and not all the 5 Weeks*, as by mistake I told in my former Letter. Perhaps also the Child might find some Uneasiness from a Bone the Midwife told me she found to stick out somewhat farther than ordinary: Which, upon Examination, I take to be one of the Vertebrae of the Back-bone. And if this Bone caused Uneasiness to the Child, it might also by that means occasion perhaps the Woman's Pains I spake of. But these Suppositions and Guesses, which are only Imaginations of my own, may probably disagree with the Observations and Notions of Persons better skilled in Anatomy than my self, and are therefore submitted to their better Judgments by

*Their Humble Servant,*

W. Derham